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1 [Experimental testbeds and data: Performance optimizations for wireless wide-area networks: comparative study and experimental evaluation](#) 
 Rajiv Chakravorty, Suman Banerjee, Pablo Rodriguez, Julian Chesterfield, Ian Pratt
 September 2004 **Proceedings of the 10th annual international conference on Mobile computing and networking MobiCom '04**

Publisher: ACM Press

Full text available:  pdf(262.46 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

We present a comparative performance study of a wide selection of optimization techniques to enhance application performance in the context of wide-area wireless networks (WWANs). Unlike in traditional wired and wireless IP-based networks, applications running over WWAN cellular environments are significantly affected by the vagaries of the cellular wireless medium. Prior research has proposed and analyzed optimizations at individual layers of the protocol stack. In contrast, we introduce the fi ...

Keywords: 3G, CDMA 2000, GPRS, HTTP, TCP, UMTS, cellular, cross-layer interactions, multi-layer performance optimizations, proxy

2 [Best papers from WMASH 2004: Secure universal mobility for wireless Internet](#) 
 Ashutosh Dutta, Tao Zhang, Sunil Madhani, Kenichi Taniuchi, Kensaku Fujimoto, Yasuhiro Katsume, Yoshihiro Ohba, Henning Schulzrinne
 July 2005 **ACM SIGMOBILE Mobile Computing and Communications Review**, Volume 9 Issue 3

Publisher: ACM Press

Full text available:  pdf(1.47 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

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3 [Mobility, roaming, and handoff: Secure universal mobility for wireless internet](#) 
 Ashutosh Dutta, Tao Zhang, Sunil Madhani, Kenichi Taniuchi, Kensaku Fujimoto, Yasuhiro Katsume, Yoshihiro Ohba, Henning Schulzrinne
 October 2004 **Proceedings of the 2nd ACM international workshop on Wireless mobile**

applications and services on WLAN hotspots WMASH '04

Publisher: ACM Press

Full text available: [pdf\(1.10 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

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Keywords: 802.11, handoff, hot spot, mobile IP, mobility, security

4 iMobile EE: an enterprise mobile service platform

Yih-Farn Chen, Huale Huang, Rittwik Jana, Trevor Jim, Matti Hiltunen, Sam John, Serban Jora, Radhakrishnan Muthumanickam, Bin Wei
July 2003 **Wireless Networks**, Volume 9 Issue 4

Publisher: Kluwer Academic Publishers

Full text available: [pdf\(2.90 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

iMobile¹ is an enterprise mobile service platform that allows resource-limited mobile devices to communicate with each other and to securely access corporate contents and services. The original iMobile architecture consists of devlets that provide protocol interfaces to different mobile devices and infolets that access and transcode information based on device profiles. iMobile Enterprise Edition (iMobile EE) is a redesign of the original iMobile architecture to address the security, ...

Keywords: content transcoding, middleware, mobile devices, mobile enterprise, mobile multimedia services

5 Mobile and pervasive commerce track: A multi-layer approach to the study of inter-organizational wireless infrastructure

Carleen Maitland, Annemijn van Gorp, Ankur Tarnacha, Rudi Westerveld
August 2006 **Proceedings of the 8th international conference on Electronic commerce: The new e-commerce: innovations for conquering current barriers, obstacles and limitations to conducting successful business on the internet ICEC '06**

Publisher: ACM Press

Full text available: [pdf\(513.32 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

The supply side of the pervasive commerce market will rely on a mix of wireless technologies that include public cellular and wireless networks as well as the wireless networks owned and operated by individuals and organizations. The integration of these diverse networks constitutes a significant milestone in the evolution of toward pervasive commerce. This research reports on results from a trial involving public cellular/private wireless network integration. Based on insights derived from the ...

Keywords: inter-organizational systems, pervasive commerce, wireless infrastructure

6 Dynamic Networks: Caching web services in mobile ad-hoc networks: opportunities and challenges

Roy Friedman

October 2002 **Proceedings of the second ACM international workshop on Principles of**

mobile computing POMC '02**Publisher:** ACM PressFull text available:  pdf(134.51 KB)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

This paper proposes to define a caching service for Web Services in mobile wireless ad-hoc networks. The paper discusses many of the issues that need to be tackled in order to realize such a service, and proposes some solutions, some of which are based on previous experience with distributed object caching.

Keywords: caching, distributed systems, web services, wireless ad-hoc networks**7 Best poster papers from MobiHoc 2002: Virtual operator based AAA in wireless LAN**  **hot spots with ad-hoc networking support**

Junbiao Zhang, Jun Li, Stephen Weinstein, Nan Tu

June 2002 **ACM SIGMOBILE Mobile Computing and Communications Review**, Volume 6
Issue 3**Publisher:** ACM PressFull text available:  pdf(180.11 KB)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Sound and effective authentication, authorization and accounting (AAA) schemes for convenient and secure mobile wireless accesses are of great importance given the increased popularity and business opportunities in public wireless LAN hot spots. One possible scheme, which uses the mobile users' service providers as the single point of contact for all AAA transactions, is emerging as a very promising solution. We refer to such service providers as "virtual operators". In this paper, we discuss va ...

8 Papers from MC²R open call: An end-system approach to mobility management for  **4G networks and its application to thin-client computing**

Leo Patanapongpibul, Glenford Mapp, Andy Hopper

July 2006 **ACM SIGMOBILE Mobile Computing and Communications Review**, Volume 10
Issue 3**Publisher:** ACM PressFull text available:  pdf(1.48 MB)Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

This paper describes work centred around providing greater autonomy for mobile nodes to roam in Mobile IPv6 wireless networks based on a new handoff mechanism. This technique, called the Client-based Handoff, enables mobile nodes to roam in foreign wireless networks without having to be controlled by the network infrastructure. The mechanism incorporates three algorithms: a router advertisement cache, the invocation of TCP mechanisms and techniques to handle subnetwork outages in order to reduce ...

9 GPRSWeb: optimizing the web for GPRS links  Rajiv Chakravorty, Andrew Clark, Ian PrattMay 2003 **Proceedings of the 1st international conference on Mobile systems, applications and services MobiSys '03****Publisher:** ACM PressFull text available:  pdf(1.03 MB)Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

The General Packet Radio Service (GPRS) is being deployed by GSM network operators world-wide, and promises to offer users "always-on" data access at bandwidths comparable to that of conventional fixed-line telephone modems. Unfortunately, many users have found the reality to be rather different, experiencing very disappointing performance when, for example, browsing the web over GPRS. In this paper we investigate what causes the HTTP protocol and its underlying transport TCP to

underperform in a ...

10 Securing wireless applications: On securely enabling intermediary-based services and performance enhancements for wireless mobile users

 Sneha Kasera, Semyon Mizikovsky, Ganapathy S. Sundaram, Thomas Y. C. Woo
September 2003 **Proceedings of the 2003 ACM workshop on Wireless security WiSe '03**

Publisher: ACM Press

Full text available:  pdf(310.72 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Intermediary-based services and performance optimizations are increasingly being considered, by network service providers, with a view towards offering value-added services and improving the user experience of wireless mobile clients at reduced costs. However, in the presence of an end-to-end security mechanism such as IPsec, it is impossible to offer such services without fully compromising end-to-end security. We propose a new architecture to enable intermediary-based services for wireless mob ...

Keywords: IPsec, end-to-end security, intermediary, mobile, performance, wireless

11 Q focus: mobile applications: Enterprise-grade wireless

 Bruce Zenel
May 2005 **Queue**, Volume 3 Issue 4

Publisher: ACM Press

Full text available:  pdf(197.39 KB)  html(32.31 KB) Additional Information: [full citation](#), [abstract](#), [index terms](#)

Wireless technology has come a long way, but is it robust enough for today's enterprise?

12 Security and privacy: Protecting mobile devices from TCP flooding attacks

 Yogesh Prem Swami, Hannes Tschofenig
December 2006 **Proceedings of first ACM/IEEE international workshop on Mobility in the evolving internet architecture MobiArch '06**

Publisher: ACM Press

Full text available:  pdf(605.56 KB) Additional Information: [full citation](#), [abstract](#), [references](#)

Network firewalls have played a crucial role in reducing unwanted traffic by blocking unsolicited incoming data. However, for many new environments, (such as in peer-to-peer networks and certain new scenarios where wireless terminals act as servers) not all unsolicited data can be blocked. In wireline networks, this problem can partially be solved by opening dedicated pinholes in the network firewalls to allow unsolicited packets to pass. In cellular and wireless networks, however, opening dedic ...

13 Transport Layer Issues: TCP/IP performance over 3G wireless links with rate and delay variation

 Mun Choon Chan, Ramachandran Ramjee
September 2002 **Proceedings of the 8th annual international conference on Mobile computing and networking MobiCom '02**

Publisher: ACM Press

Full text available:  pdf(317.14 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Wireless link losses result in poor TCP throughput since losses are perceived as congestion by TCP, resulting in source throttling. In order to mitigate this effect, 3G wireless link designers have augmented their system with extensive local retransmission mechanisms. In addition, in order to increase throughput, intelligent channel state based scheduling have also been introduced. While these mechanisms have reduced the impact of losses on

TCP throughput and improved the channel utilization, th ...

Keywords: 3G wireless, TCP, link and rate variation

14 TCP/IP Performance over 3G wireless links with rate and delay variation

Mun Choon Chan, Ramachandran Ramjee

January 2005 **Wireless Networks**, Volume 11 Issue 1-2

Publisher: Kluwer Academic Publishers

Full text available:  pdf(456.91 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

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Keywords: 3G wireless, TCP, ack regulator, link delay and rate variation, throughput model

15 Location awareness and moving objects: A data repository for fine-grained

 adaptation in heterogeneous environments

Calicrates Pollicroniades, Rajiv Chakravorty, Pablo Vidales

September 2003 **Proceedings of the 3rd ACM international workshop on Data engineering for wireless and mobile access MobiDe '03**

Publisher: ACM Press

Full text available:  pdf(145.68 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

In this paper, we present DATOM -- an extended structured data storage system for mobile data management. We propose cooperation of networks and applications in order to adapt to the limitations imposed by heterogeneous environments. We show how adaptation can be achieved to address the high variability in link-layer characteristics as typically seen in hybrid wireless networks. We propose a novel data model for DATOM, that departs from the traditional view of files as monolithic objects, and bre ...

Keywords: data adaptation, mobile computing, overlay networks

16 Composition frameworks: Transparent end-host-based service composition through

 network virtualization

Stefan Götz, Klaus Wehrle

November 2005 **Proceedings of the first ACM international workshop on Multimedia service composition MSC '05**

Publisher: ACM Press

Full text available:  pdf(128.30 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Mobile devices have become a popular medium for delivering multimedia services to end users. A large variety of solutions have been proposed to flexibly compose such services and to provide quality-of-service guarantees for the resulting contents. However, low-level mobility artifacts resulting from network transitions (disconnected operation, reconfiguration, etc.) still prevent a seamless user experience of these technologies. This paper presents an architecture for supporting legacy applicati ...

Keywords: legacy support, mobility, multimedia, service composition

17 Special feature on MOBICOM 2003 posters: Practical experience with wireless networks integration using Mobile IPv6

 Rajiv Chakravorty, Pablo Vidales, Kavitha Subramanian, Ian Pratt, Jon Crowcroft
October 2003 **ACM SIGMOBILE Mobile Computing and Communications Review**, Volume 7 Issue 4

Publisher: ACM Press

Full text available:  pdf(224.16 KB) Additional Information: [full citation](#), [references](#)

18 Characterizing user behavior and network performance in a public wireless LAN

 Anand Balachandran, Geoffrey M. Voelker, Paramvir Bahl, P. Venkat Rangan
June 2002 **ACM SIGMETRICS Performance Evaluation Review , Proceedings of the 2002 ACM SIGMETRICS international conference on Measurement and modeling of computer systems SIGMETRICS '02**, Volume 30 Issue 1

Publisher: ACM Press

Full text available:  pdf(606.28 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#)

This paper presents and analyzes user behavior and network performance in a public-area wireless network using a workload captured at a well-attended ACM conference. The goals of our study are: (1) to extend our understanding of wireless user behavior and wireless network performance; (2) to characterize wireless users in terms of a parameterized model for use with analytic and simulation studies involving wireless LAN traffic; and (3) to apply our workload analysis results to issues in wireless ...

19 Advanced Packet Data Testing with Linux

Wesley Erhart, Joseph Bell, Marc Hammons, Mark Mains
January 2000 **Linux Journal**

Publisher: Specialized Systems Consultants, Inc.

Full text available:  html(26.12 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

At Nortel Networks, we have developed a Linux-based system for testing a second-generation packet radio service. During system development we explored the details of packet radio, the IP internals of the Linux oper

20 Secure and mobile networking

Vipul Gupta, Gabriel Montenegro
December 1998 **Mobile Networks and Applications**, Volume 3 Issue 4

Publisher: Kluwer Academic Publishers

Full text available:  pdf(223.39 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

The IETF Mobile IP protocol is a significant step towards enabling nomadic Internet users. It allows a mobile node to maintain and use the same IP address even as it changes its point of attachment to the Internet. Mobility implies higher security risks than static operation. Portable devices may be stolen or their traffic may, at times, pass through links with questionable security characteristics. Most commercial organizations use some combination of source-filtering routers, sophisticate ...

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1 [Mobility, roaming, and handoff: Secure universal mobility for wireless internet](#) 
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 October 2004 **Proceedings of the 2nd ACM international workshop on Wireless mobile applications and services on WLAN hotspots WMASH '04**

Publisher: ACM PressFull text available:  [pdf\(1.10 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

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Keywords: 802.11, handoff, hot spot, mobile IP, mobility, security

2 [iMobile EE: an enterprise mobile service platform](#) 

Yih-Farn Chen, Huale Huang, Rittwik Jana, Trevor Jim, Matti Hiltunen, Sam John, Serban Jora, Radhakrishnan Muthumanickam, Bin Wei
 July 2003 **Wireless Networks**, Volume 9 Issue 4

Publisher: Kluwer Academic PublishersFull text available:  [pdf\(2.90 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

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Keywords: content transcoding, middleware, mobile devices, mobile enterprise, mobile multimedia services

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July 2005 **ACM SIGMOBILE Mobile Computing and Communications Review**, Volume 9 Issue 3

Publisher: ACM Press

Full text available:  pdf(1.47 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

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4 Mobile and pervasive commerce track: A multi-layer approach to the study of inter-organizational wireless infrastructure

 Carleen Maitland, Annemijn van Gorp, Ankur Tarnacha, Rudi Westerveld
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May 2005 **Queue**, Volume 3 Issue 4

Publisher: ACM Press

Full text available:  pdf(197.39 KB)  html(32.31 KB) Additional Information: [full citation](#), [abstract](#), [index terms](#)

Wireless technology has come a long way, but is it robust enough for today's enterprise?

6 Design and modelling of internode: a mobile provider provisioned VPN

Francisco Barceló, Josep Paradells, Fofy Setaki, Monique Gibeaux
February 2003 **Mobile Networks and Applications**, Volume 8 Issue 1

Publisher: Kluwer Academic Publishers

Full text available:  pdf(237.48 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

This paper presents the design and architecture of a mobile Provider Provisioned VPN (PPVPN) together with a performance evaluation oriented model that allows first estimates of the VPN set-up delay to be computed. At the same time, some consequences of the discussion can be applied to the design of the VPN configuration parameters. Many different technologies and protocols are used: access is supplied through GPRS or WaveLANs, IP mobility is supported by Mobile IP, and the VPN is based on the I ...

Keywords: IPSec, VPN, mobile IP, mobile VPN, provider provisioned VPN

7 Wireless hotspots: current challenges and future directions

Anand Balachandran, Geoffrey M. Voelker, Paramvir Bahl

June 2005 **Mobile Networks and Applications**, Volume 10 Issue 3

Publisher: Kluwer Academic Publishers

Full text available:  pdf(780.01 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

In recent years, wireless Internet service providers (WISPs) have established Wi-Fi hotspots in increasing numbers at public venues, providing local coverage to traveling users and empowering them with the ability to access email, Web, and other Internet applications on the move. In this paper, we observe that while the mobile computing landscape has changed both in terms of number and type of hotspot venues, there are several technological and deployment challenges remaining before hotspots can ...

Keywords: deployment, performance

8 Vision & challenges: Wireless hotspots: current challenges and future directions

 Anand Balachandran, Geoffrey M. Voelker, Paramvir Bahl

September 2003 **Proceedings of the 1st ACM international workshop on Wireless mobile applications and services on WLAN hotspots WMASH '03**

Publisher: ACM Press

Full text available:  pdf(117.89 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

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9 Mobile and wireless technologies: emerging opportunities for digital government

Anthony M. Townsend

May 2002 **Proceedings of the 2002 annual national conference on Digital government research dg.o '02**

Publisher: Digital Government Research Center

Full text available:  pdf(80.25 KB) Additional Information: [full citation](#), [abstract](#), [references](#)

This paper overviews the rapid rise of mobile technologies, particular wireless communications devices. It outlines four emerging application areas where wireless technologies hold great potential for digital government efforts. It concludes by highlighting the lack of research on wireless technologies in the social science, and the need to rapidly expand efforts in this area.

Keywords: cities, digital government, mobile technologies, wireless communications

10 Accounting and management: Generic accounting configuration management for heterogeneous mobile networks

 Frank Eyermann, Peter Racz, Burkhard Stiller, Christian Schaefer, Thomas Walter

September 2005 **Proceedings of the 3rd ACM international workshop on Wireless mobile applications and services on WLAN hotspots WMASH '05**

Publisher: ACM Press

Full text available:  pdf(252.81 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

review

Accounting performed by network and service providers covers the tasks of determining, collecting, and evaluating information on the service usage of their customers. This information forms the basis of the subsequent charging process. For performing these tasks in case of heterogeneous mobile networks a generic configuration management, specifically tailored at the provisioning of various Internet services is needed. This work defines a role model covering all participating entities of a distri ...

Keywords: accounting, accounting architecture, charging, hand-over, mobile network operators, roaming, single bill

11 Securing wireless applications: ESCORT: a decentralized and localized access control system for mobile wireless access to secured domains

 Jiejun Kong, Shirshanka Das, Edward Tsai, Mario Gerla
September 2003 **Proceedings of the 2003 ACM workshop on Wireless security WiSe '03**

Publisher: ACM Press

Full text available:  pdf(401.72 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

In this work we design and implement ESCORT, a *backward compatible, efficient, and secure access control system*, to facilitate mobile wireless access to secured wireless LANs. In mobile environments, a mobile guest may frequently roam into foreign domains while demanding critical network services. ESCORT provides instant yet secure access to the mobile guest based on the concept of "escort", which refers to a special network object with four distinct properties: (1) T ...

Keywords: decentralized access control, identity privacy, location privacy, mobile privacy, wireless security

12 Dynamic Networks: Caching web services in mobile ad-hoc networks: opportunities and challenges

 Roy Friedman
October 2002 **Proceedings of the second ACM international workshop on Principles of mobile computing POMC '02**

Publisher: ACM Press

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Keywords: caching, distributed systems, web services, wireless ad-hoc networks

13 Session 3: Wireless MPLS: a new layer 2.5 micro-mobility scheme

 Kaouthar Sethom, Hossam Afifi, Guy Pujolle
October 2004 **Proceedings of the second international workshop on Mobility management & wireless access protocols MobiWac '04**

Publisher: ACM Press

Full text available:  pdf(480.36 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

In next generation wireless networks, mobile nodes will be equipped with multiple interfaces and will be able to take advantage of overlay networks. In such environment, global IP mobility solutions have to be optimized to handle micro-mobility management, where low-latency handoffs are essential. Signalling overhead, foreign network detection and reconfiguration are not always met in current solutions. In this paper, we propose a new solution to overcome these limitations, namely a layer 2.5 mo ...

Keywords: 802.11, MPLS, bluetooth, handover performance, hiprman, mobility management, wireless networking

14 Enhancement of a WLAN-based internet service

Youngkyu Choi, Sekyu Park, Sunghyun Choi, Go Woon Lee, Jaehwan Lee, Hanwook Jung
June 2005 **Mobile Networks and Applications**, Volume 10 Issue 3

Publisher: Kluwer Academic Publishers

Full text available:  pdf(2.62 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

A wireless LAN (WLAN)-based Internet service, called NESPORT, of Korea Telecom (KT), the biggest telecommunication and Internet service company in Korea, has been operational since early 2002. As the numbers of subscribers and deployed access points (APs) increase, KT has been endeavoring to improve its service quality as well as the network management. In this paper, we introduce a joint effort between Seoul National University (SNU) and KT to achieve it. We have been addressing two major issues ...

Keywords: IEEE 802.11, WLAN, hotspot service, wireless internet service provider (WISP)

15 Wireless networking security: Why Wi-Fi wants to be free

 Terry Schmidt, Anthony Townsend
May 2003 **Communications of the ACM**, Volume 46 Issue 5

Publisher: ACM Press

Full text available:  pdf(129.41 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)
 html(29.70 KB)

As the telecommunications industry wavers, a global grassroots movement is building the next-generation wireless network.

16 Deployment and testbeds: Enhancement of a WLAN-based internet service in Korea

 Youngkyu Choi, Jeongyeup Paek, Sunghyun Choi, Go Woon Lee, Jae Hwan Lee, Hanwook Jung

September 2003 **Proceedings of the 1st ACM international workshop on Wireless mobile applications and services on WLAN hotspots WMASH '03**

Publisher: ACM Press

Full text available:  pdf(774.23 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

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Keywords: IEEE 802.11, LAN, hotspot service, wireless internet service provider (WISP)

Broadband wireless communications for disaster relief: A project of Virginia Tech's Center for Wireless Telecommunications (CWT) Science Applications International Corporation

Charles Bostian, Scott Midkiff, Laurence W. Bill Carstensen, George E. Morgan, Michael Kurgan, Rick Klobuchar, Larry Brandt

May 2002 **Proceedings of the 2002 annual national conference on Digital government research dg.o '02**

Publisher: Digital Government Research Center

Full text available:  pdf(2.44 MB) Additional Information: [full citation](#)



18 **Location awareness and moving objects: A data repository for fine-grained adaptation in heterogeneous environments**

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September 2003 **Proceedings of the 3rd ACM international workshop on Data engineering for wireless and mobile access MobiDe '03**

Publisher: ACM Press

Full text available:  pdf(145.68 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)



In this paper, we present DATOM -- an extended structured data storage system for mobile data management. We propose cooperation of networks and applications in order to adapt to the limitations imposed by heterogeneous environments. We show how adaptation can be achieved to address the high variability in link-layer characteristics as typically seen in hybrid wireless networks. We propose a novel data model for DATOM, that departs from the traditional view of files as monolithic objects, and bre ...

Keywords: data adaptation, mobile computing, overlay networks



19 **Level set and PDE methods for computer graphics**

 David Breen, Ron Fedkiw, Ken Museth, Stanley Osher, Guillermo Sapiro, Ross Whitaker
August 2004 **ACM SIGGRAPH 2004 Course Notes SIGGRAPH '04**

Publisher: ACM Press

Full text available:  pdf(17.07 MB) Additional Information: [full citation](#), [abstract](#), [citations](#)

Level set methods, an important class of partial differential equation (PDE) methods, define dynamic surfaces implicitly as the level set (iso-surface) of a sampled, evolving nD function. The course begins with preparatory material that introduces the concept of using partial differential equations to solve problems in computer graphics, geometric modeling and computer vision. This will include the structure and behavior of several different types of differential equations, e.g. the level set eq ...



20 **Challenges of personal environments mobility in heterogeneous networks**

Fawzi Daoud, Seshadri Mohan

February 2003 **Mobile Networks and Applications**, Volume 8 Issue 1

Publisher: Kluwer Academic Publishers

Full text available:  pdf(58.84 KB) Additional Information: [full citation](#), [index terms](#)



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#2	((wireless<in>metadata) <and> (vpn<in>metadata))<and> (database<in>metadata)
#3	((database<in>metadata) <and> (vpn<in>metadata))<and> (proxy<in>metadata)
#4	((vpn<in>metadata) <and> (wireless<in>metadata))
#5	(vpn<in>metadata)
#6	((vpn<in>metadata) <and> (wireless mobile <in>metadata))
#7	((wireless <in>metadata) <and> (database<in>metadata)) <and> (management<in>metadata)
#8	((wireless with database with management)<in>metadata)

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Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	274	380/270.ccls.	USPAT	OR	OFF	2005/08/25 18:51
S2	0	380/270.ccls. and (vpn).ab.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/08/25 18:52
S3	1702	vpn.ab.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/08/25 18:52
S4	1	vpn.ab. and wireless with database with management with system.ab.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/08/25 18:53
S5	2	vpn.ab. and wireless with database with management with system	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/08/25 18:54
S6	3	vpn.ab. and wireless with database. ab.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/08/25 18:56
S7	303	vpn adj tunnel	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/08/25 19:22
S8	39	S7 with (wireless or portable)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/08/25 18:57

EAST Search History

S9	1	S7 with (wireless or portable) same database\$2	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/08/25 19:01
S10	39	S7 with (wireless or portable)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/08/25 19:01
S11	37	vpn with (wireless portable) and secure.ti.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/08/25 19:22
S12	1	vpn with (wireless portable) and secure.ti.	USPAT	OR	OFF	2005/08/25 19:23
S13	33	vpn with (wireless portable) and secure.ti.	US-PGPUB; USPAT	OR	OFF	2005/08/25 19:25
S14	822	vpn with (wireless portable)	US-PGPUB; USPAT	OR	OFF	2005/08/25 19:28
S15	1	vpn with (wireless portable) and @py<"2001"	US-PGPUB; USPAT	OR	OFF	2005/08/25 19:26
S16	366	vpn with (wireless portable) and @py<"2004"	US-PGPUB; USPAT	OR	OFF	2005/08/25 19:26
S17	159	vpn with (wireless portable) and @py<"2003"	US-PGPUB; USPAT	OR	OFF	2005/08/25 19:27
S18	1	vpn with wireless.ti.	US-PGPUB; USPAT	OR	OFF	2005/08/25 19:28
S19	797	vpn with wireless	US-PGPUB; USPAT	OR	OFF	2005/08/25 19:28
S20	15	vpn with (wireless portable) and (vpn with server with proxy)	US-PGPUB; USPAT	OR	OFF	2005/08/25 19:38
S21	911	sweet.in.	US-PGPUB; USPAT	OR	OFF	2005/08/25 19:38
S22	85	sweet.in.	US-PGPUB	OR	OFF	2005/08/25 19:39
S23	7979	vpn	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/08/25 19:40

EAST Search History

S24	277	S23 and (ipsec with tunnel)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/08/25 19:40
S25	156	S23 and (ipsec with tunnel) and (wireless portable)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/08/25 19:41
S26	41	S23 and (ipsec with tunnel) and (wireless portable) and (ipsec vpn). ab.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/08/25 19:46
S27	2	vpn adj server same (wireless adj client)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/08/25 19:47
S28	272	vpn adj server	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/08/25 19:47
S29	64	vpn adj server	USPAT	OR	OFF	2005/08/25 19:47
S30	17	vpn adj server and (tunnel)	USPAT	OR	OFF	2005/08/25 19:47
S31	8	("20020073085" "5802518" "6125384" "6466970" "6490587" "6584454" "6662217" "6725446").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2005/08/25 19:48
S32	2421	713/153,155,156,168.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/08/31 15:32
S33	170	713/153,155,156,168.ccls. and (vpn)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/08/31 15:33

EAST Search History

S34	11	713/153,155,156,168.ccls. and (vpn adj server)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/08/31 16:30
S35	117	(vpn with tunnel).ab.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/08/31 16:33
S36	77	(vpn with tunnel).ab. and internet	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/08/31 17:44
S37	114	vpn.clm. and database.clm.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/08/31 17:45
S38	64	S37 and (internet.clm.)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/08/31 17:45
S39	15	S38 and client with vpn	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/08/31 17:49
S40	182	(access with database) same (vpn)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/08/31 17:49
S41	11	(access with database).ab. same (vpn)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/08/31 17:49
S43	15	arkko.in.	US-PGPUB; USPAT	OR	OFF	2006/12/13 20:20

EAST Search History

S44	1	"6959383".pn.	US-PGPUB; USPAT	OR	OFF	2006/12/13 20:20
S45	202	VPN with (wireless laptop pda phone hand-held (personal adj digital adj assistant) (mobile adj phone) (cell adj phone))	USPAT	OR	OFF	2006/12/18 19:03
S46	382	VPN with (pda phone hand-held (personal adj digital adj assistant) (mobile adj phone) (cell adj phone))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/12/18 19:03
S47	17	VPN with (pda phone hand-held (personal adj digital adj assistant) (mobile adj phone) (cell adj phone)) same (vpn adj tunnel)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2006/12/18 19:03
S48	22	VPN with (pda phone hand-held (personal adj digital adj assistant) (mobile adj phone) (cell adj phone)) same (vpn adj tunnel)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/12/18 19:04
S50	39635	(intranet\$4 LAN) with (pda (mobile) wireless (cell\$6 adj phone) (hand-held))	US-PGPUB; USPAT	OR	OFF	2007/06/09 18:58
S51	439	(intranet\$4 LAN) near4 (pda (mobile) wireless (cell\$6 adj phone) (hand-held)) same (VPN)	US-PGPUB; USPAT	OR	OFF	2007/06/09 18:59
S52	57	(intranet\$4) near4 (pda (mobile) wireless (cell\$6 adj phone) (hand-held)) same (VPN)	US-PGPUB; USPAT	OR	OFF	2007/06/09 19:06
S53	439	(intranet\$4 LAN) near4 (pda (mobile) wireless (cell\$6 adj phone) (hand-held)) same (VPN)	US-PGPUB; USPAT	OR	OFF	2007/06/09 19:07
S54	327	(intranet\$4 LAN) near4 (pda (mobile) wireless (cell\$6 adj phone) (hand-held)) with (VPN)	US-PGPUB; USPAT	OR	OFF	2007/06/09 19:08
S55	1001	(intranet\$4 LAN) with (pda (mobile) wireless (cell\$6 adj phone) (hand-held)) with (VPN)	US-PGPUB; USPAT	OR	OFF	2007/06/09 19:08
S56	49	(intranet\$4 LAN) with ((cell\$6 adj phone) (hand-held) (laptop)) with (VPN)	US-PGPUB; USPAT	OR	OFF	2007/06/09 19:17
S57	722	(wireless with (LAN)) with (VPN)	US-PGPUB; USPAT	OR	OFF	2007/06/09 19:19

EAST Search History

S58	2620	(wirelessnear2 (LAN)) with (VPN)	US-PGPUB; USPAT	OR	OFF	2007/06/09 19:19
S59	2620	(wireles snear2 (LAN)) with (VPN)	US-PGPUB; USPAT	OR	OFF	2007/06/09 19:19
S60	201	(wireless near2 (LAN)) with (VPN)	US-PGPUB; USPAT	OR	OFF	2007/06/09 19:22
S61	15	wireless with proxy with server with vpn	US-PGPUB; USPAT	OR	OFF	2007/06/09 19:38
S62	43	(wireless laptop pda mobile) with (VPN) with (database\$2) with (access\$4 retriev\$2)	US-PGPUB; USPAT	OR	ON	2007/06/09 19:39
S63	2	(wireless laptop pda mobile) with (VPN) with (database\$2) with (access\$4 retriev\$2) same (proxy adj server)	US-PGPUB; USPAT	OR	ON	2007/06/09 19:39
S64	43	(wireless laptop pda mobile) with (VPN) with (database\$2) with (access\$4 retriev\$2)	US-PGPUB; USPAT	OR	ON	2007/06/09 19:39
S65	23	(wireless laptop pda mobile) with (LAN intranet) same (VPN) with (database\$2)	US-PGPUB; USPAT	OR	ON	2007/06/09 19:40
S66	3859	713/153,155,156,168.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/06/09 20:50
S67	326	713/153,155,156,168.ccls. and (vpn)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/06/09 20:50
S68	388	380/270.ccls.	USPAT	OR	OFF	2007/06/09 20:51
S70	19	380/270.ccls. and (VPN) and database\$2	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/06/10 21:27
S71	61	mobile adj VPN	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/06/11 01:11

EAST Search History

S72	3	KAPLAN near2 ARI.in.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/06/11 01:12
S73	8	EXPAND adj BEYOND.as.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/06/11 01:13
S74	2	EXPAND adj BEYOND.as. and VPN	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/06/11 01:13
S75	37	stavros.as.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/11 10:04
S76	0	stavros.as. and vpn.clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/11 10:04
S77	0	stavros.as. and database.clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/11 10:04